Learners take control: audio notes for promoting learner autonomy

NORTCLIFFE, Anne <http://orcid.org/0000-0001-6972-6051>, MIDDLETON, Andrew and ROSSITER, Anthony

Published version

NORTCLIFFE, Anne, MIDDLETON, Andrew and ROSSITER, Anthony (2013). Learners take control: audio notes for promoting learner autonomy. In: MIDDLETON, Andrew, (ed.) Digital Voices : a collaborative exploration of the recorded voice in post-compulsory education. Media-Enhanced Learning Special Interest Group and Sheffield Hallam University, 2013, 55-66.

Learners take control —audio notes for promoting learner autonomy

Anne Nortcliffe, Andrew Middleton and Anthony Rossiter

Introduction — hearing myself think in the auditory mirror

Podcasting is frequently described as a mobile learning technology that exploits student ownership of MP3 players. This chapter highlights the practice of learners acting autonomously by using MP3 *recorders* and mobile phone voice memo technology in making audio notes. The notes made by students take many forms and have many applications, some of which are described here.

Earlier chapters have already suggested how digital audio can be used to mediate learning, where its capacity is as much about creating an opportunity for deep engagement as it about conveying knowledge itself. This chapter takes this idea one step further by considering how the student ownership of recording devices can be used to affect their engagement by providing an auditory mirror in which recording captures the familiar, but conveys the unfamiliar (Ihde, 2003). Like photography, audio recording allows us to view ourselves as other people view us as well as offering us something of the essence of what happened. Potentially audio allows the listener to recollect, reconnect and redirect ideas and thinking; points that were made at the time can be picked up and pursued, and ideas that may have been more fleeting can be rediscovered. As Ree has pointed out, sound is "as close to us as our thoughts" (1999, p.36, attributed to Bishop Berkeley).

The chapter focuses on note making as an important academic skill and then describes two complementary projects run at Sheffield Hallam University (SHU) and the University of Sheffield (UoS). This chapter gives an account of these projects, which involved students being given MP3 recorders for personal audio note making, drawing on comments from student participants. The chapter concludes by arguing for the active development and encouragement of autonomous student recording.

On note making

Note making is an academic skill used to create records of events, readings, conversations and activity. The process of note making should also mediate learning by demanding the learner to synthesise selected information. Notes can be made and distributed by the academic (e.g. handouts and PowerPoint lecture notes), by fellow

students (e.g. shared through self-organised study circles), or by publishers or professional bodies. Note *making* as an academic practice, however, is more than this and is ultimately the responsibility of the learner. In a handbook for students, Race (2003, p.33) says,

> *The notes you make... are among the most important resources you build up during your studies. However, many people just take notes and this is not nearly as valuable as making notes.*

In making notes, the learner is continuously engaged in a process of selection, reflection and interpretation; summarising in a few words what has been heard, observed or read. This process is regarded as a "wise" rather than a "busy" process in which the essence of a situation is captured (Race, 2003, p.33). Northedge (2001) describes making notes from readings as an active process that forces the reader to grapple with the text, so revealing much more about the meaning.

Effective note making, as in the Cornell system (Pauk, 1989), requires the learner to review their notes by correcting, refining and possibly extending them while the subject matter is still fresh. This review process may, for example, involve making the notes legible, checking for omissions, expanding or clarifying abbreviations, checking references, and identifying action points. This act of making and reviewing notes aids knowledge retention and revision. Pauk (1989) proposes a '5R system' for making and using notes:

1. **Recording** the key ideas and facts;
2. **Reducing** information to create an essential summary;
3. **Reciting** — putting ideas into your own words;
4. **Reflecting** — the making of notes and their subsequent review provide an important opportunity for the learner to think about the ideas and information;
5. **Reviewing** or evaluating what is important.

This understanding of traditional academic note making provides a benchmark for evaluating audio notes. The main similarity between audio and written notes is that they are mostly created by the learner in formal academic situations such as lectures, while reading, during assignment research, and managing group work.

However, the introduction of audio as a medium for note making inevitably changes the likely applications, outputs and benefits.

Summary of two audio notes projects

The primary purpose of recording conversations in the projects discussed here was to maximise their formative potential. Following earlier studies on the recording and

distribution of audio feedback conversations (Nortcliffe and Middleton, 2008), which demonstrated the benefits of recording tutor-learner conversations, we decided that the model would be improved if the students took responsibility for making and managing their own recordings. By giving the students responsibility, we hoped that they would reveal audio note applications that were more meaningful to them and which could be shared with fellow participants during the project and then disseminated more widely later.

These projects mostly involved disabled or international students for whom the mechanics of creating written notes is particularly difficult. It was hoped that audio could support their learning without being intrusive. At SHU the Centre for Excellence in Teaching and Learning (CETL) for Promoting Learner Autonomy funded the project, with the Higher Education Subject Centre for Engineering supporting the parallel project at UoS. This funding enabled both projects to provide students with MP3 recorders.

At SHU, 52 students from across the faculties responded to a call that was primarily targeted at dyslexic students. Earlier work (Fidler *et al*., 2006) had shown how audio notes could benefit dyslexic students because of the difficulty they can have in creating and using written notes effectively. Each SHU participant went through a project induction in which they were given an MP3 recorder, ethical guidelines relating to the recording of other people, and a list of about 20 ideas for how the recorders might be used. Students were encouraged to think creatively about what they might do with the devices, though interviews conducted during the induction sessions revealed that most students intended to record their lectures. Subsequently, following periodic surveying and focus group reviews, it became evident that the students had found many other applications.

At UoS the project was motivated by the need to develop independent learning skills, especially in international students. Fifty students from a first year degree programme in the Department of Automatic Control and Systems Engineering took part. The project aimed to develop and evaluate methods for using audio pedagogically and to assess the associated implications for support and services. It also sought to highlight any difference in the use and effect of audio recording on home and international students and aimed to produce a protocol for reviewing conversations.

Other papers about the projects have reflected on the equipment, support, the making of recordings, and the international and disabled student aspects of the project (Rossiter *et al.,* 2009; Nortcliffe *et al*., 2009). However, this chapter's focus is the versatility of the medium, the student's creativity, the relationship between the autonomous making of written and audio notes and their eventual application.

Students' expectations

Recording lectures

Most students at both universities came to the project expecting to use the devices for recording their lectures. Students at the UoS suggested it would make sense for the institution to take responsibility for making a single high-quality recording of each lecture; however, systematic lecture recording was not in place at either institution at the time of the study. Though lecture recording offers some benefits in terms of convenience for learner review and revision (Parson *et al.,* 2009; Cooper *et al.,* 2009; Evans, 2008), especially where the learners finds the content difficult (Guertin, 2010), there is a danger that, in terms of academic literacy, it can deflect learners' responsibility and engagement. So while it may seem sensible logistically, it can inadvertently promote learners' passivity.

A second concern over lecture recording became apparent from the rationale for lecture recording itself. Several students described the burden of having "loads of lectures full of information" where they felt too busy to take notes and pay attention at the same time. The task of listening back to lectures, however, introduces a new burden. If lecture recording becomes an accepted part of institutional practice, the institution needs to have a joined-up approach that develops the students so that they are clear about using the recordings effectively, especially in situations where the learner becomes dependent on the recordings. Where the students take responsibility for producing their own recordings, they are more likely to consider their use more strategically. However, in this project and in other accounts of lecture recording, it is evident that most students do not think enough about the eventual management and use of the recordings. Ironically, there is a danger that recording lectures can, in effect, leave students without any useful notes if they do not have a personal system for analysing and synthesising the recordings in the way that, for example, the Cornell 5R system suggests. Students need to be advised about the best way to use lecture recordings, especially if it causes them to stop making written notes altogether.

Quality review

Many students at SHU explained that audio would allow them to improve the quality of the written notes they were already making. A student who uses a hearing aid explained that "lectures are not the quietest place to be ...I am sometimes missing half the lectures," while others explained they found it difficult to concentrate throughout a lecture. One student said she could concentrate for longer when she had *chosen* to listen to a recording at a time that suited her. Some said that, even though they made written notes, they often struggled to make sense of these later, so reviewing lectures and conversations would be helpful.

While some commentators (e.g. Brittain *et al.,* 2006; Evans, 2008; Parson *et al.,* 2009) have discussed whether recording lectures is able to support exam revision, others have discussed alternative techniques such as audio summaries (Copley *et al.,* 2007;

Guertin, 2010; Middleton, 2011) which involve students, either formally or informally, taking responsibility for summarising significant events or readings for themselves or for each other. The audio notes projects found students to be open to different approaches too.

Versatility and creativity across the formal–informal learning continuum

A review of the audio noting applications gives a sense of what students value about academic engagement in general. Beyond lecture recording, students appreciate the diverse formal and informal situations around them. They wanted to record group conversations *about* lectures; "chats" with tutors; crit sessions; interviews; student meetings; supervision meetings; their own "light bulb moments" and other people's ideas; and some spoke of creating a general resource for sharing with their peers.

The projects were interested in finding out if the presence of a discreet audio device would encourage learner autonomy through note making across the formal–informal learning continuum. Erault and Hirsh (2007) have highlighted the benefits of a more holistic and flexible view of learning processes. In the study discussed here formal usage relates to applications associated with the planned curriculum, while informal learning relates to engagement, motivation and processes beyond this. Over the years there have been debates about what constitutes informal learning (Kahr-Højland, 2005). It is clear that the learner and the academic have roles that cross many supposed divides, affecting their respective authority and autonomy.

It became clear in this work that the audio device in the student's pocket traverses convenient spatial and temporal divides and is available to them at moments that they determine to be valuable, as both a recording and listening device. In some situations it also became a mediating device in which its very presence caused exchanges to happen. It is important, therefore, to highlight the idea of semi-formal learning: those often unplanned moments of independent and social learner engagement in which something is said or thought that results in inspiration or insight.

Once inducted, students from both universities showed how versatile audio note making can be. Table 1 lists the approaches reported by the students.

Formal learning — notes from the planned curriculum

- Lectures, including guest lectures, in whole or in part;
- Group work, including decisions captured as 'audio minutes', assigned actions, records of group contributions, and brainstorming discussions;
- Lab and studio sessions, including procedural notes;
- Formal feedback with tutors and peer;
- Dissertation supervision;
- Small group tutorial discussions;
- Assignment briefings and later clarification;
- Role plays;
- Placement meetings.

Semi-formal learning — opportunistic or unplanned notes from encounters with the formal curriculum

Social:

- Feedback, including non-formal conversations with tutors and peer;
- 'Corridor conversations', e.g. clarification of complex concepts, non-formal feedback;
- Peer 'after class' conversations (e.g. study groups);
- Checking collective decisions.

Personal:

- Procedural records enabling the retracing of steps;
- Revision notes;
- Audio blogging;
- Annotations for written notes;
- Presentation preparation as a way to refine ideas and for rehearsal.

Informal learning — notes from beyond the formal curriculum

- Examples of themselves speaking to develop confidence;
- Preparing for interviews by using previous question sets to practice and review;
- Personal audio notes as ideas occurred;
- Brain dumping – described as "collecting thoughts" or noting "random thoughts that pop into your head";
- Feedback from 'friends';
- Placement diaries;
- Personal reminders;
- As a tool for initiating feedback conversations;
- Self-feedback and personal reflection on feedback received.

Table 1: A list of audio note applications as used by student participants in

formal, semi-formal and informal situations

The benefits of audio notes

It might be argued that anywhere a small recording device can go a pen and paper can go, but the students identified several benefits with using audio devices. They reported that the recorder allowed them to make notes in situations where they would not have made notes before:

> *With the creative process there are so many little things that you think 'that's brilliant' ... you forget about it. Obviously if it's recorded you [have it].*

> *It's quite good ... brainstorming with someone or doing things like that it's really good to be able to record it and then look back.*

Similarly, having a discreet recorder was useful in situations where making written notes would distract either themselves or others:

> *It's useful with your supervisor because your supervisor will tell you stuff and you're not having to write stuff down all the time. You've actually got a record of it without having to [interrupt the conversation].*

Another student described how they did not feel able to give enough attention to conversations if they were trying to make usable notes at the same time, explaining "I can't write and learn at the same time."

As expected, the opportunity was particularly useful for disabled and international students:

> *It's tiring ... No-one else is deaf and I get the feeling that everyone else can sit there and be doodling but still take it all in.*

The presence of the recorder initiated some conversations. One student explained how he valued feedback from his friend. He explained, "I just think it's easier to get them to talk than it is to say, 'Will you write what you think about this?'"

It enabled many participants to make personal notes and record ideas, sometimes in the middle of the night, due to the simplicity and usability of the device. One student used it "for just little things when I'm walking around," and another used it more systematically for capturing ideas by putting it beside his bed while writing his dissertation. The device also helped some students to manage and organise their ideas. One found it easier to "just speak out loud... without having to sit at the computer typing."

Again, while all students noted benefits, sometimes unexpected, it can create another organisational problem:

> *It kind of gets to the point where I haven't uploaded it to the computer for a while and it's like anything; it just gets to be quite a daunting task.*

Comparing written and audio notes

Inevitably, written and audio note making will be useful in different ways. As has already been discussed, there are two main aspects to making notes, whatever the medium: recording and reviewing.

Drew and Bingham (2004) point out that effective written notes can be very brief; just keywords or phrases. Audio notes, on the other hand, capture every detail, though some students are selective in what they record from a particular session. In general, the audio note maker is still left with the task of reducing information, with the audio method introducing a delay in processing the information, as shown in Table 2. This delay may be important to some learners: the expression, "It's so loud I can't hear myself think" describes the lack of control some feel when bombarded with new ideas. The benefit of this delay was evident in the students' testimony:

> *I can pause the lectures when I play them back. I can pause it, stop it, write notes. Do something. Carry on listening.*
>
> *I can just listen and I can start to work it around in my mind, rather than just trying to write as many notes as I can, trying to not miss anything they say.*

Many of the students interviewed at SHU explained that they experienced the delay and found it beneficial despite adding to their workload:

> *I can reflect more on what has been said, replay it.*
>
> *It just gives you more time to listen ... you can go home and register it in your head later and write it down.*

By separating out the reduction process, audio noting requires the learner to actively reflect, at a pace that suits them, on what has been captured. This allows learners to usefully filter out and embellish the significant ideas. However, most students involved in this study did not show any sign of using a recognised noting system. Northedge (2001) warns that the learners must be selective. The audio note making this means: learning when it is useful to make audio recordings, when it is useful to make written notes, and when it is best to just pay attention or become involved in what is happening.

Several respondents described how they continued to make written notes while recording, and how this enabled them to be more selective. The recording created a sense of security while aiding students' engagement. One student explained how the recording of the lecturer's voice freed them up to make written notes of their own ideas and points to be followed up.

Action and engagement	Audio notes	Written notes

Recording	Listening, reading, writing down ideas and selective notes, taking part or observing and recording	Listening, reading or observing and selective recording
Reducing 1	-- *delay* -- (Clarifying additional written notes)	Reducing and clarifying information to create an essential summary
Organisation 1		Managing the written notes
Reducing 2	Reducing all information	
Organisation 2	Managing the written notes	
Reciting	Putting ideas into their own words and making, extending, refining written notes produced by themselves, their peers or tutors	
Reflecting	Thinking about the ideas and information	
Reviewing	Evaluating what is important and using the notes as revision aids or to support assignments	

Table 2: Generalised action and engagement paths comparing audio and written note making, based on the Cornell system (Pauk, 1989)

The engagement path presented in Table 2 represents generalised views of both audio and written note making. It shows, on the one hand, a rigorous approach, and on the other, a gulf between reality and an idealised view of academic note making, whatever the medium. Many students simply talked of the opportunity to listen again as a method of exam revision. Potentially this is a more time-consuming task than the reduction, recitation, reflection and reviewing process.

> *I listen back to it again and again and again.*
>
> *I listened to that as I was walking around as a way of trying to revise the subject.*
>
> *[I] just play them back. Just to listen to them. But I prefer short ones than long ones because with long ones you end up getting a bit more bored.*

Some students on the other hand reported that they had engaged by editing the files. This had not been recommended, but they found it useful nonetheless:

> *I usually chop and change things about [in Audacity and] listen to it a bit again then, which sort of hammers things home again later that night.*

In both cases, however, the learner should be supported in developing a systematic approach.

The table also describes a shift from audio to writing in the Audio notes column. As the previous quote suggested, this shift may not be necessary, though several students reported having done this. Transferring from one medium to another is a demanding, though beneficial skill.

Some students reported that they listened back to recordings several times, to clarify or review difficult concepts:

> *I might not have understood it the first time round ... listen to it again and all of a sudden it fits into place.*

> *By hearing it and listening to it again and then writing it, all those three different things, they all sort of complement each other in taking in what is being said an awful lot more.*

At the same time it should be pointed out that both projects sat outside the formal curriculum and study skill provision, so the proper integration of techniques was not supported. Similarly, there was no attempt to directly compare audio with written note making during the projects; they have always been assumed to be different, complementary and a matter of preference.

Articulation and note making as reflective academic practice

Audio recording can promote learner articulation especially where it is used to capture tentative and formative statements and conversations. Vygotsky and Kozulin (1992, p.219) say, "Thought undergoes many changes as it turns into speech. It does not merely find expression in speech; it finds reality and form." This sentiment is echoed by Herrington and Herrington (2006, p.7) who discuss the value of articulation in authentic learning. They suggest, "the very process of articulating enables formation, awareness, development, and refinement of thought."

Similarly, reflection through listening back to recordings can result in a renewed immersion as noted by Fidler *et al.* (2006); the listener is able to reconnect to their original train of thought. Several students in this study repeated that suggestion; for example:

> *Mostly I just listen to it and remember where I was and what I was doing at the time ... I can actually continue with a train of thought.*

> *What I find is that, when I listen to it again, I think, 'Oh I remember thinking this at that time.' Yes, it is like a memory jogger.*

Reflection, however, requires the listener to 'think about', not just 'listen to', to avoid the recording washing over them in an unchallenging way. The quality of listening can be enhanced if:

- listening sessions are kept short;
- the playback is regularly paused while written notes are made;
- listening involves annotating written handouts;
- listening takes place within a study circle who pause playback to discuss and clarify points;
- listening is scaffolded by a quiz sheet provided as a handout by the tutor.

Finally, several respondents noted how they enjoyed reviewing their recordings and how it refreshed their memory and instilled confidence:

> *I would say it's made me feel more confident in the exams that I have taken where I've used that in the lectures.*
>
> *If I have recorded it I am going to be much more relaxed.*
>
> *[It's given me] more control of my ability to learn.*

Conclusions

This chapter has focused on the autonomous production of audio notes by students and the versatility of the medium in supporting effective note making.

Though many of the participants in the two projects were motivated enough to take part, they generally had little understanding of, nor strategy for, how they could learn *through* note making. This is not peculiar to audio note making: some participants commented on the lack of consistency in academic handouts, for example, and how this affected them in devising their own strategies for using notes. Similarly the literature on lecture recording pays little attention to how recordings should be used, the implication being that just listening again is valuable. We suggest more work is needed, but that a system of recording, organisation, reduction, reciting, reflecting and reviewing will provide a useful approach for any kind of note making.

The use of discreet MP3 recorders encouraged greater learner autonomy by providing students with more options to engage in diverse situations which they determined to be beneficial. The presence of the audio device is, for some, motivational; an enquirer's tool, designed for gathering ideas and knowledge in its many forms. But caution is needed, as highlighted by Burkdall (2009): written communication demands different intellectual skills to speech and multimedia. Ong (1982) describes writing as an act of sharpening analysis and the crafting of words;

where the words are required "to do more," contrasting with the gesture, expression and intonation that often accompany the spoken word. It would be dangerous to create a false dichotomy in which audio is seen to somehow threaten written practice. Audio notes should be understood as a way of *extending* the ways that learners have to engage with their academic work in formal, semi-formal and informal situations. We argue that the value of tentative exploration and articulation through the spoken voice is just as important as crafting the final, written word.

The participants in the projects discussed here found great value in using the audio devices in the many ways reported, frequently saying they would pay to replace the device if they lost it. Institutions, therefore, need to ensure that its policies and infrastructure do not deter the academic use of such devices and that guidance is developed for both staff and students for their appropriate and effective use.

References

Brittain, S., Glowacki, P., Van Ittersum, J. and Johnson, L. (2006). Podcasting lectures: formative evaluation strategies helped identify a solution to a learning dilemma. EDUCAUSE Quarterly 29(3), 24 - 31.

Burkdall, T. (2009). The persistence of writing. EDUCAUSE Review, May/June 2009, 58-59.

Cooper, S., Dale, C. and Spencer, S. (2009). A tutor in your back pocket: reflections on the use of iPods and podcasting in an undergraduate popular music programme. British Journal of Music Education. 26, 85- 97.

Copley, J. (2007). Audio and video podcasts of lectures for campus-based students: production and evaluation of student use. Innovations in Education and Teaching International 44 (4), 387-399.

Drew, S. and Bingham, R. (2004). The Student skills guide, 3rd edition. London: Gower Publishing Ltd.

Eraut, M. and Hirsh, W. (2007). The significance of workplace learning for individuals, groups and organisations. Oxford: University of Oxford, SKOPE.

Evans, C. (2008). The effectiveness of m-learning in the form of podcast revision lectures in higher education. Computers & Education, 50(2), 491−498.

Fidler, A., Middleton, A. and Nortcliffe, A. (2006). Providing added value to lecture materials to an iPod generation. 6th Conference of the International Consortium for Educational Development, Sheffield, UK.

Guertin, L.A. (2010). Creating and using podcasts across the disciplines. Currents in teaching and Learning, 2(2), Spring 2010. Online at: http://www.worcester.edu/Currents.

Herrington, A. and Herrington, J. (2006). Authentic learning environments in higher education. Hershey, USA: Information Science Publishing.

Ihde, D. (2003). Auditory imagination. In: Michael Bull and Les Back, eds. (2003) The Auditory culture reader. Oxford: Berg.

Kahr-Højland, A. (2005). The 'Personal Exhibition' as an educational tool in a semi-formal learning setting. In: the proceedings of Éric Bruillard, Bente Aamotsbakken, Susanne V. Knudsen and Mike Horsley (Eds) "Caught in the Web or lost in the Textbook," the Eighth International Conference on Learning and Educational Media, Caen, France, October 26th–29th, 2005. Online at: http://www.caen.iufm.fr/colloque_iartem/pdf/part_I.pdf.

Middleton, A. (2011). Audio active: discovering mobile learner-gatherers from across the formal-informal continuum. International Journal of Mobile and Blended Learning, 1(3), 31-42.